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Rethinking the Compstat process to enhance problem-solving responses: insights from a randomized field experiment

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Compstat is an important administrative innovation in policing that provides a much-needed mechanism for holding mid-level managers accountable for controlling crime rates. Research evidence suggests that Compstat is more likely to generate reactive crime control responses rather than more creative problem-solving responses. A randomized field experiment in Lowell, Massachusetts found that 'problem-solving meetings' produced more innovative responses to crime problems and generated stronger crime control gains when compared to the Compstat process. Analysis of qualitative data collected to monitor the implementation of the experiment revealed that important differences in meeting dynamics were associated with observed differences and suggests promising avenues to improve Compstat processes.

Keywords: Compstat; problem-solving; police management; crime control

Introduction

Compstat has been hailed as one of the most prominent police innovations of the past 20 years (see, e.g. McDonald, 2002; Silverman, 1999). While it has many features, Compstat can be generally viewed as a combined technical and managerial system that embeds the technical system for the collection and distribution of police performance data in a broader managerial system designed to focus the organization on specific objectives, usually involving crime reduction, by holding a subset of managers accountable for using organizational resources appropriately in pursuit of these objectives (Moore, 2003; Moore & Braga, 2003). Since the approach was first implemented by the New York City Police Department (NYPD) in 1994 (Bratton, 1998), Compstat has been adopted by various police organizations, where police executives attempt to improve their performance by embracing data-based decision-making, enhanced problem-solving, and management accountability (Weisburd, Mastrofski, McNally, Greenspan, & Willis, 2003).

Despite the extensive diffusion of Compstat across police agencies in the USA and other countries, the crime control benefits of Compstat remain unclear.[1] In fact, the extant research evidence suggests that Compstat is more likely to generate reactive crime control responses, such as flooding a problem area with patrol officers (putting 'cops on the dots'), rather than more creative problem-solving responses designed to address the conditions that cause crime problems to recur (Dabney, 2010; Weisburd et al., 2003). This is a concerning limitation of the Compstat process intended to harness problem-solving decisions to data analysis results. Indeed, there is a growing body of

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rigorous research evidence that suggests problem-oriented policing programs generate stronger crime control gains when compared to traditional police crime control strategies (Weisburd, Telep, Hinkle, & Eck, 2010). To some observers, the control element of this reform, most clearly manifested in Compstat meeting dynamics, reinforces the bureaucratic paramilitary model of traditional police departments; this, in turn, leads to less creative responses to crime problems (Weisburd et al., 2003).

In this paper, we reflect upon the outcomes of a randomized field experiment in Lowell, Massachusetts that found 'problem-solving meetings' designed to ensure adequate treatment dosage in treatment crime hot spots resulted in far more problem-solving responses and greater crime control gains when compared to the crime-reduction responses implemented at control hot spots naturally generated by a citywide Compstat process (Braga & Bond, 2008). Using qualitative data collection and analysis methods, we compare meeting dynamics to understand why the problem-solving meetings yielded more innovative and effective crime-reduction interventions relative to Compstat meetings. The results of our analyses suggest that the inputs and processes of the problem-solving meetings accounted for the observed differences in strategies and outcomes. By integrating these dynamics into Compstat meetings, these managerial systems could be used to good effect in moving police departments towards more robust community problem-solving activities.

Compstat and problem-solving

Herman Goldstein (1979) argued that the crime control failures of the standard model of policing could be explained by the fact that police departments were poorly organized to do something about crime. Compstat sought to overcome this organizational problem by empowering the command structure to do something about crime problems (Bratton, 1998; Weisburd et al., 2003). As originated by the NYPD, Compstat operates as a strategic control system implemented to collect and disseminate information on crime problems and track responses used to control them (McDonald, 2002; Silverman, 1999). These elements are most visibly displayed in Compstat meetings during which precinct commanders appear before the department's top brass to report on crime problems in their precincts and what they are doing about them (Bratton, 1998; Silverman, 1999; Weisburd, Mastrofski, Willis, & Greenspan, 2006).

A recent Police Foundation study of the implementation of Compstat by US police departments defined Compstat as a 'strategic problem-solving' model that seeks to focus police organizations on specific crime problems and to empower police organizations to identify and solve those problems (Weisburd et al., 2003). When compared to common conceptions of problem-oriented policing programs that tend to focus on line-level practice (Eck & Spelman, 1987; Goldstein, 1990), Compstat focuses on the ways in which police agencies can be organized as problem-solving institutions rather than on the specific problem-solving strategies that police use to address crime problems (Weisburd et al., 2006). The Police Foundation identified six key elements of Compstat that form a comprehensive approach for mobilizing police agencies to identify, analyze, and solve public safety problems: mission clarification; internal accountability; geographic organization of command; organizational flexibility; data-driven problem identification and assessment; and innovative problem-solving (Weisburd et al., 2003).

In practice, however, these core elements do not seem to translate into enhanced problem-solving responses in Compstat agencies. A Police Foundation survey found that Compstat police agencies were not any more likely to implement innovative

problem-solving responses than non-Compstat police agencies (Weisburd et al., 2003). The on-site observations documented a preponderance of traditional responses, such as saturation patrol and increasing arrests in problem areas. The Police Foundation research team also conducted deeper ethnographic assessments of three 'model' police departments – including the Lowell Police Department (LPD) – that closely followed the NYPD Compstat model (Willis, Mastrofski, Weisburd, & Greenspan, 2004). Compstat police agencies tended to place the greatest emphasis on mission clarification and internal accountability elements. Unfortunately, the reinforcement of the traditional hierarchical command structure interfered with the decision-making authority of mid-level managers and diminished creative problem-solving efforts.

The LPD and Compstat

Lowell, Massachusetts is a small city of some 105,000 residents located about 30 miles northeast of Boston and has a geographic expanse of 14.5 square miles. After his appointment in 1995, Superintendent Edward F. Davis adopted Compstat as a central component of his departmental reforms and closely followed the model developed by the NYPD; as such, this makes Lowell an ideal research site as the LPD engaged a model that was widely replicated in police agencies across the USA and many other nations. As described by Willis et al. (2004), the LPD's Compstat goals included, 'eliciting collective input on crime patterns and problem-solving strategies, encouraging information sharing on crime locations, victims, and suspects, and facilitating the deployment of department resources' (p. 474). LPD Compstat meetings were held on a bi-weekly basis, led by Superintendent Davis or one of the two Deputy Superintendents, and typically included 25–30 attendees.[2] The captains who led the LPD's three policing sectors were the focal point of the Compstat meetings and other mid-level managers would also be queried as crime problems intersected with their locus of responsibility. Citywide and sector-level crime trends and hot spot maps were closely reviewed; the presentation of the data was accompanied by questioning by Davis and the Deputy Superintendents on the nature of concerning crime trends and concentrations and the captains' strategies to address recurring crime problems.

Willis et al. (2004) found that the LPD's Compstat fostered a clear sense of mission and accountability relative to crime control. However, they also reported that the process did not realign decision-making toward street supervisors, nor did it provide sector captains with greater flexibility in using organizational resources. Although the use of crime data and analyses for problem and hot spot identification were a centerpiece of the Compstat process, the captains rarely referenced data beyond personal perceptions and police reports to understand the conditions that cultivate crime patterns and hot spots. Further, the Willis et al. (2004) study revealed that captains habitually relied on traditional crime control tactics rather than engage in more creative and innovative strategies to deal with crime hot spots. While the LPD's Compstat was established, in part, to encourage information sharing and innovative problem-solving, Willis et al. (2004) suggested that Lowell fell short of achieving these goals because the meeting reinforced traditional, hierarchical command and control constitutions that impeded the reforms and innovation that they had hoped to achieve.

The current study

This research analyzes process data collected during the implementation of a randomized controlled trial to test the impact of problem-oriented policing on crime and

disorder hot spots in Lowell (Braga & Bond, 2008). Using computerized mapping technology, 34 crime and disorder hot spots were identified and subsequently matched into 17 like pairs; one member of each pair was randomly allocated to treatment and control conditions. The intervention period lasted for one year (1 September 2005 through 31 August 2006). Superintendent Davis assigned ultimate responsibility for the implementation of the problem-oriented policing intervention at the treatment places to the captains that managed the LPD three policing sectors. The problem-oriented policing intervention was managed through monthly 'problem-solving meetings' designed to ensure adequate treatment dosage in treatment crime hot spots. The control hot spot areas experienced the routine amount and kinds of police strategies that such areas in Lowell would experience without focused intervention – arbitrary patrol interventions, routine follow-up investigations by detectives, and ad hoc community problem-solving attention.

Policing actions at the control hot spots were managed through the LPD's bi-weekly Compstat meetings. These meetings were attended by the research team to document possible contamination issues – whether the control hot spots were receiving concentrated police actions that were similar to the interventions implemented at the treatment hot spots. While control hot spots were not acknowledged as such, these locations were routine subjects of Compstat meetings as persistent problem places that required ongoing police attention. When control hot spots were addressed, the research team took careful notes on the discussion that followed. It is worth noting here that treatment hot spots would occasionally be mentioned during the Compstat process.

Analytical framework and data collection

The randomized controlled trial design facilitated a structured comparison between the problem-solving meetings that guided the implementation of the problem-oriented policing intervention at the treatment hot spots and the Compstat meetings that governed problem-solving attention in the comparison hot spots. Qualitative data collected to monitor treatment and control conditions were analyzed to understand the key characteristics and dynamics of the two sets of management accountability meetings. The analytical framework draws on group/team[3] effectiveness research to examine whether meeting characteristics and dynamics had an influence on the observed differences. The Inputs-Process-Outcome (IPO) framework is applied to the LPD meetings to explore the connection among the *inputs* into group work, group *process* behaviors to develop strategies and tactics to address crime and disorder, and their impact on working group *outcomes* (Campion, Medsker & Higgs, 1993; Gladstein, 1984). The application of the IPO framework to this research is appropriate for two reasons. First, since the LPD was the site for both sets of meetings, organizational factors were constant. Variations in organizational culture, hierarchy, policies, and procedures can have strong impacts on group dynamics. Second, the Compstat and the treatment problem-solving meetings had very similar crime-reduction and accountability objectives.

Qualitative data were collected using two basic techniques: (1) overt participant observation; and (2) intensive interviewing of LPD commanders, managers, and officers. As described by Lofland and Lofland (1984), participant observation is the process in which a researcher gains a close and intimate familiarity with a given group of individuals and their practices through an intensive involvement with people in their natural environment, usually over an extended period of time. In this study, the LPD was overtly observed by the research team in two sets of crime control meetings and field settings as researchers monitoring the implementation of an experiment. Intensive

interviewing, also described by Lofland and Lofland (1984) as 'unstructured interviewing,' involves recurring guided conversations to discover the subject's experience of a particular topic or situation.

Over the course of the experiment, $N = 14$ monthly problem-solving meetings and $N = 22$ bi-monthly Compstat meetings were observed.[4] In both meetings, the number of participants and their level and nature of participation, patterns of participation, participant roles within the agency, and the content of conversations involving strategies to address hot spot locations were carefully documented. The research team also interviewed key LPD staff at scheduled meetings and through informal conversations.[5] Qualitative data on the genesis and implementation of crime control strategies were also collected during $N = 52$ weekly ride-alongs to monitor progress at treatment hot spots and $N = 12$ monthly researcher site observations to document actions taken at control hot spots.[6] We sought to improve reliability of the qualitative data by cross-checking and probing study participants' responses to the interview questions. Interview and meeting observation data were recorded in the form of handwritten notes, transcribed, and analyzed by the authors.

In the analysis, we selected statements that illustrated themes consistently found throughout the data. The quotes used were not atypical, with the exception of a few issues that we indicate a small number of respondents mentioned. We were also careful throughout the data analysis to ensure that the emerging themes correctly reflected respondents' descriptions. Thus, the research team utilized grounded theory methods to identify recurrent topics in addition to less common but salient issues (Strauss, 1987).

Results

Meeting inputs

While the problem-solving meetings were based on the LPD's Compstat process, there were some obvious differences. The problem-solving meetings were held on a monthly rather than bi-weekly basis. Compstat centered on the identification of crime patterns and hot spots across the city and within sectors, while problem-solving meetings focused on 17 persistent crime and disorder hot spots. The problem-solving meetings were also smaller, with a mean of 13 participants that included Davis, then-Deputy Superintendent Kenneth Lavallee, the three sector captains and selected officers from their commands, the Community Liaison, the Director of Research and Development, and a civilian analyst from the Crime Analysis Unit. Compstat meetings averaged 27 participants; the additional meeting members included other members of the LPD command staff and external agency representatives (such as probation officers, prosecutors, and others).

It is also important to note here that the Compstat meetings were held in a large room with the LPD command staff seated around a U-shaped table facing a screen with projected computerized crime statistics for presentation purposes. Lowering ranking officers, civilian staff, and members of outside agencies were seated around the table. Superintendent Davis or one of the Deputy Superintendents led the meeting as a formal question-and-answer session for particular sector captains with occasional input from other high-ranking LPD officers on specific issues. In contrast, the problem-solving meetings were held in a smaller room with all participants (regardless of rank, civilian/ sworn status, or external observer status) sat around a single rectangular table. While Superintendent Davis or Deputy Superintendent Lavallee led the meetings, the format was much less formal and there was an expectation that everyone around the table needed to participate in the discussion.

At each problem-solving meeting, the crime analyst presented simple trend analyses of citizen calls for service and crime incidents in each of the treatment hot spots to determine whether crime and disorder problems were being positively impacted. If the data revealed that calls for service were decreasing, Superintendent Davis praised the captains and their officers and asked them to explain why they believed their actions were producing the desired effects, and what else could be done to keep calls for service decreasing. If the analysis revealed that the number of citizen calls for service had remained the same or increased, Superintendent Davis peppered the captains with questions about their plans for dealing with recurring problems in the hot spot areas. The problem-solving meetings also served as a venue for the command staff, captains, officers, and other LPD staff to explore and share ideas on plausibly effective prevention strategies for persistent problems in the treatment places.

While the performance measurement accountability principles were borrowed from Compstat, the activities at the problem-solving meetings represented an ongoing scanning, analysis, response, and assessment process (see Eck & Spelman, 1987). The routine measurement and review of strategies in the treatment places served as an important mechanism to ensure that there was a strong treatment dosage for the experiment. The problem-solving meetings were designed to ensure that the captains and their officers were implementing the problem-oriented policing program and adhering to the requirements of the experimental research design. These meetings were explicitly focused on implementing the approach by addressing local community concerns as measured by trends in citizen calls for service in the treatment hot spot areas, holding police managers accountable for dealing with identified problems, and serving as a venue to enhance the creativity of implemented responses through open discussion and idea sharing.

Research on group work suggests that inputs such as group size, group composition, and task design influence the outcomes of working groups (Campion et al., 1993; Stewart, 2006). Our analysis documented that the Compstat meetings were larger and group composition was slightly more varied than the problem-solving meetings. Our analyses of the qualitative data also suggested neither group size nor composition seem to exert noteworthy independent effects on the meetings. The smaller size of the problem-solving meetings may have made it easier to conduct intimate conversations of particular problems. However, as will be discussed further below, the meeting processes were much more influential in explaining variations in outcomes between the Compstat and problem-solving meetings.

Task design represents what the group is attempting to accomplish (Hackman & Oldham, 1980). In the Compstat meetings, Superintendent Davis tended to guide conversations towards clusters of crime incidents within a particular sector, specifically including the 17 comparison hot spots. In this way, the task designs of the two meetings were broadly similar as both meetings were intended to produce the same outcomes – increased problem-solving responses and reduced crime at specific problem places. However, the geography of targeted crime problems were clearly more variable in the Compstat meetings as discussions, at times, ranged from specific addresses to neighborhoods. Another important difference was the explicit identification of specific problems within each targeted treatment hot spot in the problem-solving meetings. On average, the sector captains identified four problems per treatment hot spot that seemed to generate recurring crimes. These problems became a 'caseload' of work: underlying conditions associated with these problems were dissected, appropriate responses were discussed, and response performance was measured repeatedly over the course of the experiment.

Meeting process

Meeting process elements include a variety of group dynamics, including communication and cooperation behaviors, constructive feedback systems, collaborative planning practices, the level of interdependence and trust among participants, and the functional diversity and roles participants represent in the organization and group (Williams & Allen, 2008). Analysis of our qualitative data from the Compstat and problem-solving meetings suggested that the two working groups had the greatest differences in three key areas: communication and information sharing, collaborative planning, and the appreciation of the roles and skill sets of a broader range of group members in achieving group goals.

Communication and information sharing

Communication and information sharing are recognized as influencing group effectiveness (Woolley, Gerbasi, Chabris, Kosslyn, & Hackman, 2008). Woolley et al. (2008) asserts that it is more than just information sharing that matters, but rather the revealing, organizing, and pooling of information that matters most to outcomes. The LPD Compstat meetings almost always involved one-to-one communication between the lead executive officer and the sector captains in a mechanical and, often, superficial manner. Similar to the observations made by Willis et al. (2004), communication exchanges were usually perfunctory, involving quick reviews of identified problems and brief reports on responses by the sector captains. While we did not observe any instances where sector captains were publicly humiliated, the communications by the lead executive officer were highly authoritarian in nature and occasionally dismissive when the sector captains provided answers that were believed to be uninformed or incorrect.

Unless the Superintendent prompted another meeting member to contribute, the captain of the reporting sector was the only person discussing problems at these varying high-crime places. Moreover, these discussions often did not lead to conversations on appropriate problem-solving responses that were linked to underlying conditions and dynamics. Over the course of the study, we documented $N = 170$ distinct discussions of spatial crime problems at Compstat meetings. Only 25.8% ($N = 44$) of these discussions were followed by a problem-oriented conversation about the varied ways LPD officers could impact these persistent spatial crime problems. Unfortunately, the resulting responses usually included a preponderance of traditional enforcement actions.

Many instances were noted where deficient problem-solving was driven by a lack of engagement of low-ranking officers and civilian staff. For instance, in Compstat meeting 1, the Superintendent asked the North Sector captain to report on his plans for addressing community concerns over an assault hot spot in the downtown area. The captain responded by simply stating that he was 'redeploying officers to address community concerns and complaints.' The community liaison was not asked to report on community concerns and substance of the LPD's response to the problem. In fact, across the observed Compstat Meetings, this important LPD staff member was rarely asked to comment on any police-community communication issues.

In Compstat meeting 19, the Superintendent requested the East Sector captain to explain some concerning increases in sector-wide property and violent crime trends by reflecting on the content of the underlying crime incident reports. The captain responded by stating, 'Chief, I don't know how these statistics are generated, and I'm not sure I

ever will.' The crime analyst who was managing the presentation of crime statistics for the Compstat meetings was not asked to provide any insights on the underlying crime incident reports. Rather than engage in what could have been a valuable conversation about the data, the conversation moved to the next topic. After each of these Compstat meetings, we asked the community liaison and crime analyst why they did not offer any insights. Both expressed concerns that it would be detrimental to their careers if they offered information that contradicted their superiors. This parallels previous research findings that most Compstat participants do not contribute information to avoid the perception of questioning authority (Weisburd et al., 2006; Willis et al., 2004).

Problem-solving meetings fostered a more participatory and democratic problem-solving approach, without minimizing the accountability of captains. The communication tone of the lead executive officer was less formal, more engaging, and inclusive. Captains were encouraged to discuss crime problems and their problem-solving ideas, without a fear of being embarrassed if an idea was incomplete or failed. All meeting members were expected to contribute and share information. In problem-solving meeting 5, the crime analyst began the conversation on treatment hot spots in the West Sector by observing, 'Three hot spot areas seem to be driving the numbers, so maybe we should focus on those areas.' The West Sector captain and two patrol officers then followed this observation by identifying the underlying problems that might be driving the increases and the entire group contributed to the search for potential responses. In problem-solving meeting 5, Superintendent Davis suggested, 'Let's look at the hot spots with crime reductions so we can try to understand why other hot spots are not showing the same decreases.' Instead of offering the same perfunctory replies used in Compstat meetings, the sector captains engaged in a thoughtful discourse on the observed differences. Other participants, such as the community liaison, enriched the discussion by contributing information based on what they knew from their work in the hot spots.

Problem-solving meeting members were encouraged to participate with the intent of offering feedback in order to improve upon, rather than simply criticize, ideas. In organizational research, this is known as 'voice behavior' (LePine & Dyne, 1998 and this manner of risk-taking communication has been found to influence group outcomes positively (Edmondson, 1999). For instance, in problem-solving meeting 3, Deputy Superintendent Lavallee asked participating officers if their strategies at their various treatment hot spots included serving warrants. The East Sector lieutenant responded by stating 'we are focusing on car break problems in this hot spot because that is our biggest problem, and while warrant checks are important, they are not of greatest concern to the police or the community at the moment.' Deputy Lavallee accepted this explanation without questioning the lieutenant's judgment, suggesting a dynamic in support of open and honest communication without fear of reprimand. Risk-taking communication was rarely observed at Compstat Meetings. Captains typically responded to strategy suggestions with assent (see also Willis et al., 2004).

Collaborative planning

Given the limited communication among participants, very little collaborative planning was observed in the Compstat meetings (an observation also made by Willis et al., 2004). Collaborative planning reinforces 'shared mental models' – an idea which suggests that when a group of individuals have similar understandings about their work, when they use these understandings to coordinate work, and when they focus on solving the task at hand, there may be positive effects on communication and coordination in

pursuit of group goals (Mohammed & Dumville, 2001). For instance, during a discussion of increasing citywide assault incidents in Compstat meeting 18, the Investigations Division captain suggested that an upward trend in domestic assaults might account for some important portion of the trend. Unfortunately, this captain neither made subsequent plans to work with crime analysis to investigate the domestic violence claim nor engage the lieutenant in charge of Family Services (i.e. domestic violence unit) about developing plans to address any observable increases in domestic assaults. In fact, out of the $N = 170$ distinct discussions of geographic crime problems, we observed only 10.6% involved some form of collaborative planning.

In contrast, collaborative planning was observed as routine work among the participants in the problem-solving meetings. For instance, during problem-solving meeting 7, a dilapidated home was noted to be recently damaged by fire in one of the West Sector treatment hot spots. The concern was that the building was unsafe, and may attract crime and disorder problems. In response, the West Sector captain and community liaison contacted the Department of Public Works to secure the building and then organized a neighborhood walk that included police, fire department, and inspectional and neighborhood services staff. When they were not engaged in active planning at the problem-solving meetings, sector captains and other meeting participants routinely discussed their collaborative efforts with external partners when addressing identified crime and disorder problems. For example, in problem-solving meeting 2, when discussing two adjacent vacant and unkempt lots that accounted for multiple disorder problems, the East Sector lieutenant specifically noted that he worked with the Department of Public Works to clear the public vacant lot, a local bank to identify the owner of the private vacant lot, and the fire department to address alleyway obstruction code violations (i.e. large debris and piles of trash that blocked police access to the alley).

Appreciation of the roles and skill sets from a broader range of group members

'Transactive memory' reflects the awareness among working group members of each other's knowledge and skills that are organized and coordinated to achieve a task (Austin, 2003). Scholars suggest that when expertise is understood and respected, and when there is an understanding of contributions to an end product, goal attainment is more likely (Kahn, Wolfe, Quinn, & Snoek, 1964). Failure to recognize the expertise and role of others, combined with passive involvement in working group settings, influences how participants behave and how others perceive their role. These are reciprocally reinforcing concepts in that *how* the role is perceived contributes to how the role manifests itself, which in turn contributes to how the role is perceived (Kahn et al., 1964). While mostly the same people participated in both set of meetings, the working group assembled in the problem-solving meetings showed a distinctly different transactive memory pattern in achieving work tasks.

In problem-solving meetings, sector captains consistently engaged the crime analysts, community liaison, and low-ranking officers under their command to understand the underlying conditions that caused persistent crime and disorder problems in the treatment hot spots and to shape the responses to control these criminogenic situations and dynamics. The conversations were far richer than the usual hierarchical communication patterns. In essence, the high-ranking officers seem to have a much better appreciation for the so-called 'democracy of talents' (Billups, 1987) in the room. Problem-solving meetings facilitated the use of participants' knowledge and skills, and fostered a sense of interdependence for addressing hot spot challenges. Good

contributions to the discussion of problems and the development of appropriate responses were value no matter who made the suggestions. In turn, the productivity of these interactions spurred additional information sharing and collaborations among the participants.

Unlike Compstat meetings, sector sergeants and patrol officers often participated in problem-solving meetings to offer an assessment of what was going on in a given hot spot. Their participation was reflective of their familiarity to the problems occurring on the street. These low-ranking officers relished the opportunity to be influential in developing crime control plans. For instance, during problem-solving meeting 14, a North Sector officer initiated a discussion on the relationship between parking and disorderly behavior in his hot spots area. He came to the meeting with a methodical analysis of calls for service and incident data, as well as aerial photos and street boundary data from city engineers. His analysis suggested that an effective response would require a change in parking regulations, as well as intense engagement with landlords to facilitate new parking practices. During problem-solving meeting 3, the North Sector Captain expressed concern over increased calls for service in a treatment hot spot that included housing for the local University. To better understand the problem, he turned to the crime analyst and asked, 'I'd like to conduct a more in-depth review so I can better understand what is happening. Can I get more data maybe even by time and day of week so I can get a broader sense of the situation up there and create a more targeted strategy?' Rather than quickly respond with data output, the analyst offered to meet with the Captain and his staff to discuss how additional data (beyond LPD calls for service and incident reports), might better inform the strategy.

Recognition of member knowledge and skills in the Compstat meetings was rare. Indeed, in only 21 (12.3%) of the 170 problem place discussions did we observe a low-ranking or civilian staff member contribute to the Captain's report. Compstat participants rarely spoke up or offered support, possibly adhering to a hierarchical culture by deferring communications to those of higher authority (Willis et al., 2004). While not an explicit element of the Compstat meetings, the sessions seemed to be oriented towards the exclusion of low-ranking sworn officers and civilians who held valuable knowledge and expertise. It often seemed that high-ranking sworn officers were viewed as having 'the answers' regarding the problems of places and desirable ways to deal with them. Indeed, the 'one-on-one' conversations between the Superintendent and the sector captains did not recognizing the knowledge and expertise of others in the room that were closer to the problems being discussed.

Meeting outcomes

A growing body of IPO research reveals that the group work processes powerfully influence outcomes (Williams & Allen, 2008). This analysis of qualitative process data collected to monitor a randomized field experiment supports this perspective on the relevance of group dynamics to producing desired outcomes. When compared to the actions taken in the control hot spots via Compstat, the randomized field experiment revealed that the treatment coordinated through the problem-solving meetings generated 6.8 times as many situational prevention measures (75 responses v. 11 responses), 2.4 times as many social service prevention strategies (17 responses v. 7 responses), and 29% more misdemeanor arrests to control disorderly behavior (789 arrests v. 611 arrests) (Braga & Bond, 2008). Moreover, the enhanced responses generated by the problem-solving meetings also produced superior crime control gains when compared to the strategies

driven by the Compstat system. The randomized field experiment reported that the problem-solving treatment generated a 20% reduction in citizen calls for service in treatment hot spots relative to control hot spots without displacing crime problems into surrounding areas (Braga & Bond, 2008).

These results were somewhat surprising to the LPD command staff as the Compstat and problem-solving meetings shared the same personnel and included many of the same elements: identification of crime and disorder hot spots through computerized mapping and data analysis, the encouraged use of problem-solving as a means to control identified hot spots, review by commanding officers of plans to alleviate problems at hot spots, and publicly holding sector captains accountable for the performance of implemented strategies. Despite these broad similarities, the experiment found that the problem-solving meetings generated increased outputs (more problem-solving strategies) that led to improved outcomes (reduced calls for service). It seemed that the inputs and processes of the problem-solving meetings had overcome some of the limitations of the Compstat meetings identified by Willis et al. (2004) that resulted in more traditional responses to identified crime problems.

Conclusion

Compstat is an important administrative innovation in policing that provides a much-needed mechanism for holding mid-level managers accountable for controlling crime rates. Compstat principles have also been applied to improve manager account-ability in other police work matters such as overtime budgets, detective functions, and personnel issues. While the system has many desirable properties, Compstat, as cur-rently practiced in many police departments, may not be optimally designed to produce desired crime-reduction effects. When compared to non-Compstat police departments, police departments that use Compstat have been found to be more likely to implement traditional crime control strategies rather than community problem-solving strategies to address crime problems (Weisburd et al., 2003). Willis, Mastrofski, and Kochel (2010) suggested a new form of Compstat that supports collective problem-solving, maintains accountability, and more fully embraces community policing. They observed that this may require diminishing the formality of the chain of command in crime control meet-ings to support more collaborative problem-solving by a wider range of meeting partici-pants.

It is important to note here that the Compstat and problem-solving meetings compared in this study had somewhat different purposes. As suggested by others (e.g. Willis et al. 2004), the LPD Compstat was not only engaged as a crime-reduction strat-egy, but also as a kind of theatrical display designed to demonstrate to both internal and external audiences to the police organization that management is in charge and holding subordinates accountable. In general, Compstat is well suited to making top manage-ment appear as if it can make the organization responsive, and it appears to do so for those who routinely appear before it (e.g. sector captains). However, the approach does not appear to have much effect further down the organization where the actual work of police is done. On the other hand, the LPD problem-solving meetings focused less on maintaining a formal set of processes (e.g. the brass asks questions and the subordinates answer) and more on maintaining a supportive environment where innovative strategies were designed with the explicit intent of generating actual crime reductions. The process was not the event; the outcome was. In Compstat, the key players seemed to play their assigned parts, with a very predictable and more constrained outcome. In the

problem-solving meetings, there was a greater chance for creativity to blossom and for officers to help each other.

This study advances the observations of Willis et al. (2010) and others by demonstrating that changes to crime control meeting processes can indeed produce more desirable outputs and outcomes. Despite similarities in meeting facilitators and participants, the stifling dynamics of the traditional police hierarchy were absent from the problem-solving meetings. This allowed for more discourse and information sharing by all attendees. A more democratic, inclusive approach to meeting participation was critically important. Regardless of their status in the organization, all participants were engaged in the discussion with the intent of organizing and crafting creative and effective solutions to crime problems. As a result, more diverse perspectives and ideas were brought into discussions. These perspectives challenged and broadened the groups' understanding of crime and disorder problems, and supported the creative and innovative problem-solving objective of the meeting.

The practice of problem-oriented policing is essentially about insight, imagination, and creativity (Goldstein, 1990). These important ingredients to the problem-solving process seem to be minimized in Compstat meeting settings where only a small number of high-ranking officers who are distant from the day-to-day street work in communities are the primary participants. The meetings miss out on the experiential knowledge assets of low-ranking officers and civilian staff. This undermines the productivity of the meetings. Our research suggests that crime control meetings, such as Compstat, can be organized to maximize the ability of police departments to implement creative problem-oriented responses to recurring crime and disorder problems. Drawing on the Lowell experience, other police departments should design their meeting processes to enhance communication and information sharing among participants, facilitate collaborative planning in the design of problem-solving strategies, and appreciate the roles and skill sets of a broader range of group members in achieving group goals. Indeed, further research on these more collaborative Compstat meeting dynamics would generate valuable knowledge to guide future iterations of these important management accountability meetings.

Notes

1. For instance, both Eck and Maguire (2000) and Rosenfeld et al. (2005) found little evidence that Compstat was associated with noteworthy reductions in homicide in New York City. However, Mazerolle et al. (2007) and Jang et al. (2010) found that the implementation of Compstat was associated with reductions in property crimes.
2. These attendees included Sector Captains and their selected Lieutenants and Sergeants; other Bureau and Unit Captains and Lieutenants (such as Investigations, Housing Authority, Family

Services and Traffic Bureau), members of the Crime Analysis and Intelligence Unit, a civilian Community Liaison, and civilian managers who led the Communications Division and Research and Development. Other Lowell City Department Heads (e.g. Inspectional Services, Neighborhood Services) and the Lowell District Court Probation Chief were regular participants as well.

3. This collection of work utilizes the term group and team interchangeably (Williams & Allen, 2008).

4. Monthly problem-solving meeting continued for two months after the 12-month-intervention period ended. Unfortunately, the research team was not able to observe two Compstat meetings during the 12–month-intervention period due to scheduling conflicts.

5. The research team conducted recurring unstructured interviews with the Superintendent, the Deputy Superintendent in Charge of Operations, the three sector Captains and three Lieutenants from those sectors, the Lieutenant in charge of the Crime Analysis Unit, the Sergeant who commanded the Vice and Narcotics Unit, the Sergeant who served as the liaison to the Lowell Housing Authority, a civilian crime analyst assigned to the experiment, and the civilian Community Liaison specialist.

6. Weekly ride-alongs were conducted with the lieutenants, sergeants, and patrol officers responsible for implementing the treatment strategies in the three policing sectors. Researchers conducted monthly visits to the control sites to monitor these locations.

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